

Claims

I claim:

1. An assembly for connecting railway cars comprising a male part connected to a first railway car and a female part connected to a second railway car, said male and female parts capable of being combined into one assembly for the purpose of coupling said first and second railway cars together,
said male part further comprising
 a vertical shaft connected to a horizontal shaft,
 said horizontal shaft protruding from said first railway car in the direction of said second railway car,
said female part further comprising
 an anvil, slidably connected to said second railway car, capable of pushing against said vertical shaft of said male part,
 a knuckle, pivotally connected to said second railway car, together with said anvil, capable of surrounding and restraining said vertical shaft of said male part in a plane perpendicular to said vertical shaft,
 a receptacle, capable of surrounding and restraining said horizontal shaft of said male part in a plane perpendicular to said horizontal shaft, pivotally and slidably connected to said second railway car on the same vertical axis as said vertical shaft of said male part when said vertical shaft of said male part is surrounded and restrained by said anvil and said knuckle.
2. The assembly for connecting railway cars of claim 1 wherein the said horizontal shaft is hollow.

3. The assembly for connecting railway cars of claim 2 further comprising a fluid connection within said horizontal shaft and said receptacle.
4. The assembly for connecting railway cars of claim 1 further comprising an electrical connection within said receptacle.
5. The assembly for connecting railway cars of claim 1 wherein said receptacle further comprises a flexible seal between said receptacle and said horizontal shaft having the means of containing pressurized fluids within said horizontal shaft and said receptacle.
6. The assembly for connecting railway cars of claim 5 wherein said flexible seal further comprises a dust boot capable of preventing the passage of dust into said receptacle.
7. The assembly for connecting railway cars of claim 1 wherein said receptacle is further connected to said second railway car by at least one centering spring capable of aligning said receptacle on a common axis with said horizontal shaft such that said receptacle surrounds said horizontal shaft when said first railway car is moved into contact with said second railway car on a straight railway track.
8. The assembly for connecting railway cars of claim 1 wherein said receptacle further comprises a horn shaped orifice capable of guiding said horizontal shaft inside said receptacle when said first railway car is moved into contact with said second railway car on a curved railway track.

9. The assembly for connecting railway cars of claim 1 wherein said receptacle is further connected to said second railway car by at least one shaft capable of radially aligning said receptacle on the axis of said horizontal shaft such that a plurality of fluid or electrical connectors inside said horizontal shaft compatible with fluid or electrical connectors inside said receptacle can conduct fluid or electricity when said first railway car is moved into contact with said second railway car.
10. The assembly for connecting railway cars of claim 1 wherein said receptacle further comprises a safety catch capable of restraining the vertical movement of said receptacle such that said vertical shaft connected to said horizontal shaft is vertically restrained within said knuckle and said anvil when said horizontal shaft is restrained by said receptacle.
11. The assembly for connecting railway cars of claim 10 wherein said safety catch further comprises a piston chamber capable of restraining said safety catch when fluid is supplied to said chamber such that the vertical movement of said receptacle can be selectively restrained and unrestrained in response to said fluid.
12. The assembly for connecting railway cars of claim 1 wherein said horizontal shaft is connected to said first railway car by a shock absorbing spring capable of preventing damage to said first and second railway cars when they are moved into contact with each other.
13. The assembly for connecting railway cars of claim 1 wherein said horizontal shaft is connected to said first railway car by a pivot.

14. The assembly for connecting railway cars of claim 13 further comprising a retraction mechanism connected between said horizontal shaft and said first railcar capable of pivoting said horizontal shaft at least 90 degrees in a horizontal plane.
15. The assembly for connecting railway cars of claim 14 wherein said retraction mechanism further comprises a spring capable of pivoting said horizontal shaft of said male part such that said horizontal shaft is not extended from said first railway car in the direction of said second railway car.
16. The assembly for connecting railway cars of claim 14 wherein said retraction mechanism further comprises a piston capable of pivoting said horizontal shaft of said male part such that when fluid is supplied to said piston, said horizontal shaft is extended from said first railway car in the direction of said second railway car.
17. The assembly for connecting railway cars of claim 1 wherein said knuckle further comprises a spring connected to said female part that flexibly permits said knuckle to pivot when contacted by said vertical shaft of said male part when said first railway car is moved into contact with said second railway car and pushes said knuckle into a position surrounding said vertical shaft when not in contact with said vertical shaft.
18. The assembly for connecting railway cars of claim 1 wherein said knuckle further comprises a handle for manually pivoting said knuckle.
19. The assembly for connecting railway cars of claim 1 wherein said knuckle further comprises a remote control device for pivoting said knuckle.

20. The assembly for connecting railway cars of claim 1 wherein said anvil further comprises a piston chamber connected to said second railway car capable of sliding said anvil such that when fluid is supplied to said piston chamber, said anvil pushes said vertical shaft of said male part away from said female part until said horizontal shaft of said male part is not in contact with said receptacle of said female part.
21. The assembly for connecting railway cars of claim 20 wherein said anvil further comprises a safety catch for restraining the vertical movement of said vertical shaft when surrounded by said knuckle and said anvil.